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Deadly legacy: Is Plastimet killing firefighters?

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The deaths occurred with stunning swiftness.

First Vinnie in September, then Len in October. In November, Larry. Beginning of January, Dave.

Two weeks ago, Joe almost joined them. It was only because his brother firefighters were on the ice playing hockey with him that he survived.

Each was a Hamilton firefighter on active duty. Each was a nonsmoker and extremely fit. The oldest was only 52.

COLLAPSED. Joe Elliott has been a firefighter for 20 years. He recently collapsed during a hockey game from a heart valve complication. Many wonder if the problem was made worse due to his work as a firefighter. Cathie Coward/The Hamilton Spectator Source: The Hamilton Spectator

Yet Vincent D'Onofrio, Lenard Martin and David Begley all died of massive heart failures. Larry Power died of a rare aggressive cancer once found almost exclusively among Victorian-era chimney sweeps.

Joe Elliott nearly died of a heart failure, too, but instant action by his colleagues saved his life. Joe is only 47.

There is another common tie that binds most of them — Len, Larry, Dave and Joe all fought one of North America's worst-ever industrial fires.

Plastimet.

"Our people are in shock," said Henry Watson, president of the Hamilton Professional Fire Fighters Association.

"To have four and nearly five active firefighters succumb or nearly succumb to heart-related illnesses and cancer is of grave concern."

The burning question is: Why?

Are all four heart events unrelated? Is there a correlation between the rare chimney sweep cancer and the job? Are the heart failures the result of a firefighter's increased exposure to harmful combustibles? Did repeated physical overexertion in stressful situations play a role?

Or is this the result of fighting a four-day fire 14 years ago where the levels of hydrochloric acid were so high

near the fire that the metal on the fire trucks melted?

In the aftermath of the 1997 Plastimet fire, Hamilton set up a long-term health monitoring program known as the Occupational Health Evaluation Program (OHEP), based on recommendations from Dr. James Melius, one of the top experts in the world on firefighter occupational health problems.

Melius is the chief medical adviser for the International Association of Fire Fighters, a member of the U.S. president's advisory board on radiation and worker health, and chair of the steering committee for the World Trade Center medical monitoring and treatment program.

The occupational physician and epidemiologist knew firefighters faced higher odds of developing diseases, especially in highly toxic chemical fires like Plastimet, where 400 tonnes of recycled plastic burned for four days. As well, the building on Wellington Street North was the former Usarco, an old foundry. Plastimet pushed exposures to toxic materials to a whole new level.

He told the firefighters' union and the city that health impacts would likely begin showing up within 10 to 15 years of Plastimet. What he didn't expect was a sudden spike in heart-related fatalities.

"This is an unusual cluster of a relatively small group," Melius said Thursday. "Yes, it could have occurred by chance, but it is out of the ordinary and given their common exposure to an unusual fire event, one might expect to see some of the delayed effects of that exposure."

The main problem with heart attacks in firefighters is the combination of exposures to carbon monoxide and other gases that occur during a fire with the high physical requirements of being a firefighter, he said.

A firefighter working with all his or her heavy equipment has to work at maximum physical output, and that puts a strain on the heart. Along with individual physical changes, firefighters are at a much higher risk of developing acute heart problems.

But this "may be very specific to Plastimet," said Melius, who is based in Washington, D.C.

The epidemiologist is heading for Hamilton in the next several weeks to try to figure out what's happening. A key priority, he said, is to expand the OHEP monitoring to include cardiovascular screening.

The impacts of a single event can be seen in the health effects of 9/11 on firefighters and workers who spent days and weeks in the rumble of the fallen twin towers.

"Thirty per cent of the workers have become ill" as a result of their exposure to extremely small and highly alkaline particles from the concrete dust "that penetrated deep into their lungs" causing asthmas that are highly resistant to treatment and pulmonary fibroses, along with acute post-tramautic stress disorders.

The soot and particulate matter from the Plastimet inferno, in which hundreds of tonnes of recycled plastic burned, would have been much more toxic and irritating than other fires, Melius said.

"We know that from the reports people made at the time, plus they were exposed to long periods," Melius said. "Firefighters never really got away from where the smoke was. For example, the relief station where they took a break from fighting the fire was within the smoke plume most of the time."

Firefighters were exposed to unknown chemical cocktails that even today could not be detected because sophisticated chemical sniffers are set up to find individual hazardous byproducts, said Colin Grieve, a

Hamilton firefighter and occupational health specialist for the Ontario Professional Fire Fighters Association.

The firefighters' union is extremely worried, Grieve said.

"There were 294 guys at Plastimet, and about 200 are still on active duty. Since Plastimet, we've had 15 to 20 heart attacks."

Joe Elliott admits he was lucky. At only 47, Elliott was in premier shape: "I don't drink, I don't smoke, my wife and I eat healthy and we work out at the gym all the time. We regularly do the Escarpment stairs."

Late last month, Elliott was on the ice playing hockey in the little 11-team Hamilton firefighter league. "I just didn't feel right. I'd come off the ice and feel dizzy. But I just kept shaking it off."

The third time back to the bench, Elliott turned to tell a colleague something was wrong, and collapsed. He stopped breathing and his teammates started CPR. He made it to hospital where doctors performed open heart surgery to repair a malfunctioning aortic valve.

Elliott had spent four days at Plastimet. "It was chaos when we pulled up." At times shifting smoke made a huge stack looming above him look like it was tumbling down onto him.

The union says firefighters don't like talking about Plastimet because it makes them think about things they'd rather not think about. Some deal with it by fatalistically putting it out of their minds and getting on with the job.

"Some guys, though, it plays on their minds. Some just can't shake it," Elliott said.

Post-Plastimet, Elliott decided he was worried enough about its effects that he asked his family physician to do a full physical. A heart murmur was detected, but it was deemed not to impair him in any way.

Now, recovering from open heart surgery to repair the aortic valve, Elliott said his surgeon told him the valve's deterioration happened much quicker than it should have.

"We need greater surveillance. I've always asked why we don't get our heart monitored. This is very important to me, especially in my occupation."

The fire department is already in discussions with the union about expanding OHEP to include heart monitoring.

"We're certainly concerned," said acting Fire Chief David Cunliffe. "Any time there's a death, we're all concerned. It hits home.

"We haven't had any medical evidence provided at this point that links them to any specific event, but obviously we have concerns."

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